SCIENCE

NEW SERIES. VOLUME LXXXVII

JANUARY-JUNE, 1938

NEW YORK
THE SCIENCE PRESS
1938

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PENNSYLVANIA

Weber
Copy 1

CONTENTS AND INDEX

NEW SERIES. VOL. LXXXVII—JANUARY TO JUNE, 1938

THE NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS

Abel, John Jacob, E. K. MARSHALL, 566
ABRAHAMSON, E. M., Absorption of Blood for Cholesterol Extraction, 420
ABRAMSON, H. A., Wheals in Human Skin, 299
Academy, of Science, Tennessee, 41, 582; Oklahoma, 42; Iowa, 415; Pennsylvania, 416; Alabama, 553; South Carolina, 553; Minnesota, 554; Virginia, 581; of Sciences, Florida, 42; Washington, 132; American, of Arts and Sciences, 207, 455; Grants-in-aid, 523
Acetobacter suboxydans, J. W. DUNNING and OTHERS, 72
Aeshna, Larval Development, P. P. CALVERT, 393
Agglutinins for Human Erythrocytes, M. FINLAND and E. C. CURNEN, 417
Airplane Crashes, C. E. FERREE and G. RAND, 189
ALEMAR, C., and A. LEE, David William May, 31
Algebra of Geometry, Symposium on, K. MENGER, 324
ALLEN, W. E., Planktonic Diatoms, 171
ALLINGTON, W. B., Separation of Plant Viruses, 263
ALMQUIST, H. J., Erosions of Chick Gizzard Lining, 538
American, Association for the Advancement of Science, Magnitudes, F. H. SEARES, 1; Intellectual Freedom, 10; Officers, 10; Mycobacterial Diseases, W. C. WHITE, 14; E. R. LONG, 23; Science and Society, 16, 17; H. G. MOULTON, 173; Geology in Life, G. R. MANSFIELD, 49; Indianapolis Meeting, F. R. MOULTON, 95; Statistics, 96; Problems, 97; General Sessions, 97; President-elect, 98; Prize Award, 99; Resolutions, 99; Press Service, 100; Radio Programs, 100; Financial Reports, 101; Academy and Secretaries' Conferences, 102; Exhibition, 102; Scientific Sessions, Mathematics, 102; Physics, 103; Chemistry, 103; Astronomy, 104; Geology and Geography, 104; Zoological Sciences, 105; Botanical Sciences, 106; Zoological and Botanical Sciences, 110; Anthropology, 111; R. LINTON, 241; Psychology, 112; Social and Economic Sciences, 112; Historical and Philological Sciences, 113; Engineering, 113; Medical Sciences, 113; Agriculture, 115; Education, 116; Related Organizations, 116; Grants, 117; Science for Humanity's Sake, 118; Human Adjustment, A. T. POFFENBERGER, 124; Southwestern Division, V. C. KIECH, 134, 508; Syphilis, T. PARRAN, 147; Social Sciences and Engineering Education, W. E. WICKENDEN, 152; Taxonomy, J. M. GREENMAN, 265; Pacific Division, 317; Ottawa Meeting, F. R. MOULTON, 445, 547; Science in General Education, O. W. CALDWELL, 454; Monolayers, I. LANGMUIR, 493; Occurrence of Carbon Dioxide, F. E. E. GERMANN, 513
Americans, and the Royal Society, R. H. HEINDEL, 267, and the Royal Astronomical Society, R. H. HEINDEL, 575
Anaphylaxis, E. T. WATERS, J. MARKOWITZ and L. B. JAQUES, 582
Anatomists, Fiftieth Anniversary of the American Association of, F. T. LEWIS and G. W. CORNER, 531
Anemia, P. L. HARRIS and G. L. POLAND, 45
Aneurin, F. W. WENT, J. BONNER and G. C. WARNER, 170
Animals, Laboratory, Marking of, F. A. BEACH, JR., 420; E. B. CARMICHAEL, 557
Anthropology, Status of, R. LINTON, 241
Antibodies, Molecular Weights of, E. A. KABAT and K. O. PEDERSEN, 372
Apples, Parthenocarpic, F. A. VARRELMAN, 414
ARNOW, L. E., Preparation of Dopa-melanin, 308
Arsphenamines, H. EAGLE and W. MENDELSOHN, 194
Ascorbic Acid, Determination of, C. C. TORRANCE, 332
ASHBY, G. K., Schaeffer Spore Stain, 443
ASHLEY-MONTAGU, M. F., Concept of Atavism, 462
Astronomy, Cooperation in, O. STRUVE, 364
Attendance at Scientific Meetings, F. M. WADLEY, 437
AVERY, G. S., JR., and OTHERS, Darwin and Plant Hormones, 66

Bacillus Mycoides, J. L. ROBERTS, 260
Bacteria, Flagellation of, H. J. CONN and G. E. WOLFE, 283; Marine, Adaptation, C. E. ZOBELL and H. D. MICHENER, 328; in Dust-laden Snow, A. G. LOCHHEAD, 487
Bacteriophage, C. J. ELMORE, 235
Bakelite Plastic, H. LANDSBERG and A. I. INGHAM, 419
BAKER, H., Analysis of Muscle, 555
BARNES, T. C., and H. L. GOLUBOCK, A Bioelectrical Potential, 556
BARNHART, J. H., John Kunkel Small, 129
BARTHOLOMEW, E. T., W. B. SINCLAIR and B. E. JANES, Soluble Solids in Citrus Fruits, 584
Basalts, Columnar Structure, H. S. CONARD, 41
BATCHELOR, H. W., and P. W. WILSON, Silicic Acid Jellies, 172
BATES, R. L., Ordovician Bentonite, 300
Baxter Meteorite, H. H. NININGER, 234
BEACH, F. A., JR., Marking Laboratory Animals, 420
BEARD, J. W., and OTHERS, Equine Encephalomyelitis, 89; Immunization, 490
BEAUMONT, A. B., Soil Corrosion, 347
Bentonite, Ordovician, R. L. BATES, 300
BERNHART, F. W., Vivi-diffusion Apparatus, 373
Bile Acids and Chick Gizzard Lining, H. J. ALMQUIST, 538
BING, R., Lindbergh Apparatus, 554
Biological, Abstracts, G. W. HUNTER, 3d, P. R. BURKHOLDER and M. L. RANEY, 254, 463; F. V. RAND, 323; Sciences at the University of Chicago, 501
Biology, Experimental, Federation of American Societies for, 80, 295
BIRKHOFF, G., Higher Algebra, A. Albert, 259
BISHOP, F. W., Exposure Meter, 239
Blood, Analysis, E. M. ABRAHAMSON, 420; Circulating, pH of, L. F. NIMS, C. MARSHALL and H. S. BURR, 197
BLUM, H. F., Visual Purple and Rod Vision, 193
BOCHNER, S., Theory of Fourier Integrals, E. C. Titchmarsh, 370
BOGERT, M. T., Fichtelite, 234; and E. C. STERLING, 196
Bone Development, W. D. GALLUP and L. C. NORRIS, 18
BOOKER, H. G., and L. V. BERKNER, Refraction, 257
Books, Historical and Scientific, 228
BORDEN, R. J., Upendra Kumar Das, 58
Botanic Garden, Brooklyn, 340
Botany, Pandemic, C. S. GAGER, 285
Botulism, Human, E. L. HAZEN, 413
Bowditch, Henry Pickering, W. B. CANNON, 471
Bowie, William, Award to, 9
BRAMLEY, A., The X Particle, 281
BREAKEY, E. P., and H. S. OLCOTT, Gossypol, 87
BRIDGMAN, P. W., Thermodynamics, P. S. Epstein, 258
British Association, 159; 569
Broadcasting by Science Service, 207
Bromination of Methylphenyl- and Propylphenyl-carbinols, P. A. LEVENE and A. ROTHEN, 510
Brooks, William Penn, 521
BROWN, B. H., Probabilities in Card Matching, 512
BRUCE, W. F., Absolute Ether, 171

BRYAN, K., Prehistoric Quarries and Implements, 343
Burbank, Luther, W. L. HOWARD, 139
BURKE, J. F., Discolored Plates, 351

CAIRNS, W. D., Putnam Mathematical Competition, 480
Calcium, Localization of, A. I. LANSING, 303
CALDWELL, O. W., Science in General Education, 454
California, Institute of Technology, Crellin Laboratory, L. PAULING, 563; R. A. MILLIKAN, 565
CALVERT, P. P., Larval Development of Aeshna, 393
CAMP, W. J. R., Ink for Kymograph Tracings, 22
CAMPBELL, D. H., Pollen and Hay Fever, 16
Canada, Medical Research in, 545; Royal Society of, E. H. CRAIGIE, 579
Canavalin, Concanavalin A and Concanavalin B, Molecular Weights of, J. B. SUMNER, N. GRALÉN and I.-B. ERIKSSON-QUENSEL, 395
Cancer, Commission of Inquiry, Liverpool, 272; Problem, and the Public, J. EWING, 399
CANNON, A. J., William Henry Pickering, 179
CANNON, W. B., Henry Pickering Bowditch, 471
Carbon Dioxide, Occurrence of, F. E. E. GERMANN, 513
Carcinogenics and Growth Stimulation, S. E. OWEN, H. A. WEISS and L. H. PRINCE, 261
CARLSON, A. J., Silas Weir Mitchell, 474
CARMICHAEL, E. B., Numbering Laboratory Animals, 557
CASTLE, W. A., Hatching of Eggs of Fairy Shrimp, 531
Catalase, K. G. STERN and R. W. G. WYCKOFF, 18; Crystalline, J. B. SUMNER and N. GRALÉN, 284
Cedar Tract Reservation, Port Orford, 8
Cellulose, Mercerized, in Halicystis, W. A. SISSON, 350
Cenozoic Era, Level of Ocean, A. H. FRETZ, 346
Central Atlantic, Temperatures, H. B. HACHEY, 219
Centrifuges, J. W. MCBAIN, 93
Channel Islands National Monument, 501
Chaos Chaos, Culture of, A. J. COHEN, 74
CHASE, A. M., Pigments from Retina of the Frog, 238
CHATTERS, R. M., Fast Neutrons and Dry Seeds, 262
Chemical, Society, American, 317; Industry, Society of, 385
Chemistry, Tenth International Congress, 316; at California Institute of Technology, L. PAULING, 563; R. A. MILLIKAN, 565
Chemists' Advisory Council, 207, 522
Chicago, University of, Science at, C. R. MOORE, 278; Endowment of Biological Sciences at, 501
Chicken Tumor I Agent, A. CLAUDE, 467
Chimneys, Falling, J. B. REYNOLDS, 186
Chlorophyll, W. E. TOTTINGHAM and H. J. DUTTON, 214
Cholesterol Extraction from Blood, E. M. ABRAHAMSON, 420
CHRISTIAN, H. A., Fruition of the Clinician, 202
CLARK, G. L., and R. ROWAN, Formaldehyde-Protein Reaction, 487
CLAUDE, A., Chicken Tumor I Agent, 467
Climatic Hypothesis, S. D. DODGE, 85
Clinician, Fruition of, H. A. CHRISTIAN, 202
COCKE, E. C., Fixing and Staining of Earthworms, 443
COCKERELL, T. D. A., Andrei Vassilievitch Martynov, 292
COHEN, A. J., Culture of Chaos Chaos, 74
COKER, R. E., Functions of an Ecological Society, 309
COLE, E. C., Methyl Methacrylate, 396
Colloid Chemistry Symposium, 524
Coloration, Protective, F. B. ISELY, 40
COLTON, H. S., Culture Roots in the Southwest, 551
Commonwealth Fund, 33
Components, Principal, Reliability of, I. LORGE and N. MORRISON, 491
CONARD, H. S., Columnar Structure in Basalts, 41
CONKLIN, E. G., American Philosophical Society, 391; Grants, 432
CONN, H. J., and G. E. WOLFE, Flagellation of Bacteria, 283
Constants and Numerical Data, H. S. TAYLOR, 235
COOK, D. H., and J. H. AXTMAYER, Projection Reader for Filmstats, 331
COOK, E. S., M. J. HART and R. A. JOLY, Growth and Respiration of Yeast, 331
COOPER, W. C., and F. W. WENT, Effect on Root Formation of Growth Substances, 390
Cornell University, Chemical Engineering, 182; Flood Control Research, 229; Medical School, 339
Cortico-hypothalamic Relations, R. R. GRINKER, 73
Crab, Common Blue, G. GUNTER, 87
CRAIGIE, E. H., Royal Society of Canada, 579
Craspedacusta near Albany, N. Y., D. STONER, 188
CRESSMAN, L. S., Museum of Natural History, University of Oregon, 249
CRONEIS, C., Arthur Ware Slocum, 227
CROSS, G. L., Oklahoma Academy of Science, 42
Culture Roots in the Southwest, H. S. COLTON, 551
CUNNINGHAM, B., Incubation of Chick Embryos, 90

DADOURIAN, H. M., Force in Mechanics, 388
d-Arginine, Preparation of, S. W. FOX, 418
Darwin and Plant Hormones, G. S. AVERY, JR., and OTHERS, 66
Das, Upendra Kumar, R. J. BORDEN, 58
DAVENPORT, E., Illinois Agricultural Experiment Station, 542
DAWSON, R. F., Nicotinic Acid and Tobacco Metabolism, 257
Dean, The Late Bashford, Reprints of, E. W. GUDGER, 390
Deer Fly, Speed of, I. LANGMUIR, 233
DELAPLANE, J. D., and H. O. STUART, A Growing Yeast Medium, 585
Diabetes, Experimental, J. F. FAZEKAS, H. E. HIMWICH and S. J. MARTIN, 144
Diatoms, Planktonic, W. E. ALLEN, 171
Dinosaur in Upper Cretaceous, C. W. GILMORE, 299
DOCHEZ, A. R., and C. A. SLANETZ, Canine Distemper, 142
DODGE, S. D., Climatic Hypothesis, 85
Dopa-melanin, Preparation of, L. E. ARNOW, 308
DU BUY, H. G., and R. A. OLSON, Protoplasmic Streaming, Electric Potentials and Growth, 490
DUGGAR, B. M., Effects of Radiation, 507
Duke University, Graduate School of Forestry, 208; Marine Biological Laboratory, 454
DUNNING, J. W., and OTHERS, Acetobacter Suboxydans, 72
DURHAM, O. C., Pollen and Hay Fever, 167
DYSON, J. L., Snowslide Erosion, 365

EAGLE, H., and W. MENDELSOHN, Arsphenamines, 194
Earthworms, Fixing and Staining, E. C. COCKE, 443
Ecological Society, Functions of, R. E. COKER, 309
Electrochemical Society, 34
Elm Disease in England, 248
ELMORE, C. J., Bacteriophage, 235
Embryos, Chick, Incubation of, B. CUNNINGHAM, 90
Empire Exhibition, 453
Emulsoid, W. SEIFRIZ, 212
Encephalomyelitis, Equine, J. W. BEARD and OTHERS, 89; Immunization against, J. W. BEARD and OTHERS, 490
Engineering, School of, Northwestern University, 408
Engineers, Civil, 133; Electrical, 183
Entomologists, Meeting of, 250
Ether, Absolute, W. F. BRUCE, 171
EWING, H. E., Speed of Insects in Flight, 414
EWING, J., The Public and the Cancer Problem, 399
Expedition, U.S.S.R., 32; Hancock Pacific, 274; Eastern Pacific, "Zaca," 522
Exposure Meter, F. W. BISHOP, 239

Fairy Shrimp, Hatching of Eggs of, W. A. CASTLE, 531
FAZEKAS, J. F., H. E. HIMWICH and S. J. MARTIN, Experimental Diabetes, 144
Feeder for Rats and Mice, Y.-Z. TANG and F. GREENSHIELDS, 398
FERREE, C. E., and G. RAND, Airplane Crashes, 189
Fertility and Intelligence, R. R. WILLOUGHBY, 86
Fichtelite, M. T. BOGERT, 234; and E. C. STERLING, 196
Filmstats, Projection Reader for, D. H. COOK and J. H. AXTMAYER, 331

FINKELSTEIN, R., and J. M. BIRKELAND, Action of Sulfanilamide and Prontosil, 441
FINLAND, M., and E. C. CURNEN, Agglutinins for Human Erythrocytes, 417
Fish, Life, Mill Refuse a Menace to, R. T. SMITH, 552; Captured, Cause of Death, A. G. HUNTSMAN, 577
FLEISCHMANN, W., and S. KANN, Corticosterone, 305
FLEMING, J. A., The "Dana" and the "Research," 214
Floods in Southern California, 273
FORBES, T. R., Oestrone Administered to Young Alligators, 282
Forest Land Problem, 315
Formaldehyde-Protein Reaction, G. L. CLARK and R. ROWAN, 487
FOSBERG, F. R., Lower Sonoran, 39
Fossil, Algae, R. R. SHROCK, 438; Localities, New, G. MURRAY, JR., 390
Foundation, Lalor, 359; Banting Research, V. E. HENDERSON and A. W. HAM, 500
FOX, S. W., Preparation of Pure d-arginine, 418
FRAMPTON, V. L., and H. NEURATH, Tobacco Mosaic Virus Protein, 468
FRANCIS, W. D., Crystalline Character of Living Material, 16
Franklin Institute, Dedication of, 409, 481; Medals of, 433
Freedom, Intellectual, 10
Freezes, Effects of, on Trees, S. A. SKINNER, 279
FRETZ, A. H., Level of Ocean in Cenozoic Era, 346
Fruits, Citrus, Rind Color of, E. V. MILLER, 394; Soluble Solids in, E. T. BARTHOLOMEW, W. B. SINCLAIR and B. E. JANES, 584
FRUTON, J. S., and M. BERGMANN, Pepsin Action, 557

GAGER, C. S., Pandemic Botany, 285
GALLUP, W. D., and L. C. NORRIS, Manganese and Bone Development, 18
GATES, R. R., Indian Science Congress, 357
Geodesy and Geophysics, Union of, N. H. HECK, 353
Geological Society of America, 160
Geology in Life, G. R. MANSFIELD, 49
GERMANN, F. E. E., Occurrence of Carbon Dioxide, 513
GERSHON-COHEN, J., and OTHERS, Thymus, 20
GIESE, A. C., Long Wave-length Ultra-violet, 326
GILMAN, J. C., Iowa Academy of Sciences, 415
GILMORE, C. W., Dinosaur in Upper Cretaceous, 299
GLASER, R. W., and N. R. STOLL, Haemonchus Contortus, 259
GOLDBERG, E., Root and Shoot Production, 511
GORTNER, R. A., Viruses, Living or Non-Living?, 529
Gossypol, E. P. BREAKEY and H. S. OLCOTT, 87
GRANICK, S., and H. W. DUNHAM, Growth Substance, 47
Grants, Research in Infantile Paralysis, 61; Carnegie Corporation, 249; Philosophical Society, E. G. CONKLIN, 432; Academy of Arts and Sciences, 523
Grass Volume Tables, T. LOMMASSON and C. JENSEN, 444
GREEN, R. G., and C. L. LARSON, Snowshoe Hare Cycle, 298
GREENBERG, D. M., and OTHERS, Potassium Metabolism, 438
GREENE, R. R., M. W. BURRILL and A. C. IVY, Androsterone and Sexual Development, 396
GREENMAN, J. M., Taxonomy, a Field for Research, 265
GRINKER, R. R., Cortico-hypothalamic Relations, 73
Growth, Substance, S. GRANICK and H. W. DUNHAM, 47; Effect on Root Formation, W. C. COOPER and F. W. WENT, 390; Intensities, A. H. HERSH, 237; Factor in, Bacillus Mycoides, J. L. ROBERTS, 260
GUDGER, E. W., Reprints of Bashford Dean, 390
GUILFORD, J. P., The International Congress of Psychology, 479
GUNTER, G., Common Blue Crab, 87

HAAS, A. E., Cosmic Constants, 195; Electronic Radius and Compton Wave-length of the Proton, 584
HACHEY, H. B., Temperatures of Central Atlantic Waters, 219
Haemonchus Contortus, R. W. GLASER and N. R. STOLL, 259
HAIG, C., S. HECHT and A. J. PATEK, JR., Vitamin A in Cirrhosis of Liver, 534
HAIG, I. T., Forest Wildlife and Silviculture, 485
Hale, George Ellery, R. A. MILLIKAN, 205
Halicystis, W. A. SISSON, 350
Hall, Maurice Crowther, B. SCHWARTZ, 451
HAMMAR, G. W., Free Water in Plant Tissue, 263
HAMOR, W. A., Research at Mellon Institute, 380
HANCOCK, H., Homologous Bodies, 320
HAND, D. B., E. S. GUTHRIE and P. F. SHARP, Oxidation of Vitamin C in Milk, 439; and L. F. RANDOLPH, Vitamin A Activity of Corn, 442
HARRIS, P. L., and G. L. POLAND, Anemia, 45
HARROW, B., Madame Curie, Eve Curie, 69
HARTMAN, C. G., Triplets in Rhesus Monkey, 552
HAZEN, E. L., Human Botulism, 413
Health Services in Great Britain, 206
HECK, N. H., Union of Geodesy and Geophysics, 353
HECKEL, G. P., and W. M. ALLEN, Parturition and Estrogenic Hormone, 302
Hedrick, U. P., Retirement of, 34
HEINDEL, R. H., Americans and the Royal Society, 267; Americans and the Royal Astronomical Society, 575
HEINICKE, A. J., Horticultural Science, 333
Helminth Eggs, Mounts of, J. H. WALKER, 558
HEMINGWAY, A., Plethysmograph, 47
HENDERSON, V. E., and A. W. HAM, Banting Research Foundation, 500
HERSH, A. H., Growth Intensities, 237
HERTIG, M., Micro-scissors, 306
HERTY, C. H., Kraft Pulp and Paper, 280
HICKS, L. E., American Ornithologists' Union, 88
HOELZEL, F., Carbohydrate Metabolism, 218
HOLLAND, M., Industrial Research Institute, 324
Homologous Bodies, H. HANCOCK, 320
HOOKER, W. J., Cross References in Scientific Literature, 577
HOPKINS, E. F., Dehydration of Vegetables, 71
Hormones, Plant, and Darwin, G. S. AVERY, JR., and OTHERS, 66; Aneurin, F. W. WENT, J. BONNER and G. C. WARNER, 170; Pregnandiol, P. G. WEIL, 72; Androgenic, G. N. PAPANICOLAOU and E. A. FALK, 238; Oestrone, T. R. FORBES, 282; *Estrogenic*, G. P. HECKEL and W. M. ALLEN, 302; Corticosterone, W. FLEISCHMANN and S. KANN, 305; Adrenalin, Oxidized, K. LISSAK, 371; Androsterone, R. R. GREENE, M. W. BURRILL and A. C. IVY, 396; Oestrin, S. R. M. REYNOLDS, 537
Horticultural Science, A. J. HEINICKE, 333
HOSKINS, W. M., Absorption of Selenium, 46
Hospital Internships and Residence, 546
HOWARD, W. L., Luther Burbank, 139
HOWELL, D. E., Mounting of Insects, 146
HULL, C., Industrial Research Laboratories, 323
Human Adjustment, A. T. POFFENBERGER, 124
HUNTER, G. W., 3d, P. R. BURKHOLDER and M. L. RANEY, Biological Abstracts, 254, 463
HUNTSMAN, A. G., Cause of Death of Captured Fish, 577
HYMAN, L. H., Medusae, Water Content, 166

Illinois Agricultural Experiment Station, H. W. MUMFORD, 539; E. DAVENPORT, 542
Imperial Institute, 227
India, Science and Industry in, LORD RUTHERFORD OF NELSON, 75
Indian Science Congress, 67; R. R. GATES, 357
Insects, Mounting of, D. E. HOWELL, 146; Speed of, in Flight, I. LANGMUIR, 233; H. E. EWING, 414
ISELY, F. B., Protective Coloration, 40
Isotopes and Metabolism, R. SCHOENHEIMER and D. RITTENBERG, 221

Japanese Research Institute, 32
JOHNSON, E. H., Vibrations in Rods, 351
Journals, New Scientific, 208

JUDAY, C., Animal Geography, R. Hesse, W. C. Allee and K. P. Schmidt, 347
JUMP, J. A., Disturbance of Red Pine, 138
JUNG, F. T., Evaluation of Therapeutic Results, 461

KABAT, E. A., and K. O. PEDERSEN, Antibodies, 372
Kellogg, Vernon Lyman, Work of, C. E. McCLUNG, 158; Resolution of National Research Council, 502
KELLY, E. C., Medical Classics, 167
KEMBLE, E. C., Planck's Eightieth Birthday, 360
KERR, P. F., Mineralogical Society of America, 88
KIECH, V. C., Southwestern Division of the American Association, 134, 508
KINARD, F. W., South Carolina Academy of Science, 553
KROEBER, A. L., Lodi Man, 137
KUSNER, J. H., Florida Academy of Sciences, 42
KUSTER, K. C., Fresh-water Medusae, 300
Kymograph Tracings, Ink for, W. J. R. CAMP, 22

Laboratory Directors and Serologists, 570
LANDSBERG, H., and A. I. INGHAM, Properties of a New Bakelite Plastic, 419
Landslip Scars, L. WHITCOMB, 530
LANGMUIR, I., Surface Motion of Water, 119; Speed of the Deer Fly, 233; Monolayers, 493
LANSING, A. I., Localization of Calcium, 303
LARK-HOROVITZ, K., World Around Us, P. Karlson, 139; Quantum Mechanics, A. Landé, 302
LaRUE, C. D., Plant Cells in Tissue Cultures, 240
LAUFFER, M. A., Virus Protein, Tobacco Mosaic, 469
LEACH, J. G., and A. A. GRANOVSKY, Termites, 66
LENZEN, V. F., Newton's Third Law, 508
LEPKOVSKY, S., Crystalline Factor I, 169
Lettuce Seed, R. C. THOMPSON and W. F. KOSAR, 218
LEVENE, P. A., and A. ROTHEN, Bromination of Methylphenyl- and Propylphenyl-carbinols, 510
LEWIS, F. T., and G. W. CORNER, Fiftieth Anniversary of American Association of Anatomists, 531
LIGHT, R. F., and L. J. CRACAS, Vitamin B_1, 90
LILLIE, F. R., Presidential Address, National Academy of Sciences, 421
Lilly Research Award, 80
Lindbergh Apparatus, R. BING, 554
LINDEGREN, C. C., and C. B. BRIDGES, Synapsis, 510
Linnean Society, Anniversary Celebration, 546
LINTON, R., Status of Anthropology, 241
LISSAK, K., Adrenalin, 371
Living Material, Crystalline Character of, W. D. FRANCIS, 16
LOCHHEAD, A. G., Bacteria in Dust-laden Snow, 487
Lodi Man, A. L. KROEBER, 137
LOEHWING, W. F., Photoperiodic Stimulus Transfer, 92
LOMMASSON, T., and C. JENSEN, Grass Volume Tables, 444
LONG, E. R., Mycobacterial Diseases, 23
Longevity and Tobacco Smoking, R. PEARL, 216
LORGE, I., and N. MORRISON, Reliability of Principal Components, 491
LOVERIDGE, A., Bifurcation in Serpents, B. Cunningham, 348
Lower Sonoran, F. R. FOSBERG, 39; A. M. WOODBURY, 484
Lucite not a Substitute for Canada Balsam, O. W. RICHARDS and J. A. SMITH, 374
LUCKIESH, M., Physiological Optics, J. P. C. Southall, 368
LUNZ, G. R., JR., Pre-colonial and Present-day Oysters, 367
Lymphomatosis, J. J. MORTON and G. B. MIDER, 327

McBAIN, J. W., Centrifuges, 93
McCLUNG, C. E., Work of Vernon Kellogg, 158
McCULLOCH, W. S., Conduction in Reflex Arc, 65
McGILL, J. T., Tennessee Academy of Science, 41, 579
McINTYRE, A. R., and F. F. ANDERSON, Bath for Smooth Muscle, 196
McKINLEY, E. B., E. G. ACREE and J. S. MECK, Sulfanilamide and Virus Diseases, 43
MADSON, B. A., Leo D. Whitney, 131
Magnitudes, F. H. SEARES, 1
MAIER, N. R. F., Sulfanilamide, 439
MANSFIELD, G. R., Geology in Life, 49
Marine Biological Laboratory, Duke University, 454
MARSHALL, E. K., John Jacob Abel, 566
MARTIN, L., Palmer's Discovery of Antarctica, 165
MARTIN, L. F., A. K. BALLS and H. H. McKINNEY, Tobacco Mosaic Virus, 299
Martynov, Andrei Vassilievitch, T. D. A. COCKERELL, 292
Massachusetts Institute of Technology, Spectroscopy Conference, 455; Colloid Chemistry at, 524
Mathematical, Competition, 160; W. D. CAIRNS, 480; Decline, G. A. MILLER, 576
Mathematics Symposium, Notre Dame, 159
May, David William, C. ALEMAR and A. LEE, 31
Mechanics, Force in, H. M. DADOURIAN, 388
Medal, Lamme, 183; Willard Gibbs, 183; New York Academy of Medicine, 230; Laetare, 294; Agassiz, 423; Public Welfare, 424; of Franklin Institute, 433
Medical, Classics, E. C. KELLY, 167; College of Virginia, 359; Research in Canada, 545
Medicine, March of, R. L. WILBUR, 199; at Columbia, 33
Medusae, L. H. HYMAN, 166; Craspedacusta, D. STONER, 188; Fresh-water, K. C. KUSTER, 300
MEEK, W. J., and A. C. IVY, American Physiological Society, 361
MEIGS, P., 3d, Vegetation on Shell Mounds, 346
Mellon Institute, Research at, W. A. HAMOR, 380
MENGER, K., Symposium on Algebra of Geometry, 324
MERRIAM, W. B., Northwest Scientific Association, 89
Metabolism, Respiratory, E. SHORR, S. B. BARKER and M. MALAM, 168; Carbohydrate and Mental Efficiency, F. HOELZEL, 218; and Isotopes, R. SCHOENHEIMER and D. RITTENBERG, 221
Methemoglobin Reduction, D. B. MORRISON and E. F. WILLIAMS, JR., 15
Methyl Methacrylate, E. C. COLE, 396
Micro-scissors, M. HERTIG, 306
MILLER, E. C. L., Virginia Academy of Science, 581
MILLER, E. V., Rind Color of Citrus Fruits, 394
MILLER, G. A., Mathematical Decline, 576
MILLIKAN, R. A., George Ellery Hale, 205; Chemistry at California Institute of Technology, 565
MINCKLER, J., and F. D. PEASE, Albino Rats Existing under Feral Conditions, 460
Mineralogical Society of America, P. F. KERR, 88
Mines and Resources, Canadian Department of, 248
MINOT, A. S., K. DODD and S. S. RIVEN, Response to Guanidine of Myasthenic State, 348
Mitchell, Silas Weir, A. J. CARLSON, 474
Monkey, Rhesus, Triplets in, C. G. HARTMAN, 552
Monolayers, I. LANGMUIR, 493
Monuments, National, G. R. WIELAND, 37; Channel Islands, 501
MOORE, C. R., Science at University of Chicago, 278
MORGAN, H. R., General Catalogue of Stars, B. Boss, 300
MORRISON, D. B., and E. F. WILLIAMS, JR., Methemoglobin Reduction, 15
MORTON, J. J., and G. B. MIDER, Lymphomatosis, 327
MOULTON, F. R., Indianapolis Meeting, 95; Ottawa Meeting, 445, 547
MOULTON, H. G., Science and Society, 173
Mounds, Shell, Vegetation on, P. MEIGS, 3d, 346
Mount Evans Laboratory, J. C. STEARNS, 431
MUMFORD, H. W., Illinois Agricultural Experimental Station, 539
MURRAY, G., JR., New Fossil Localities, 390
Muscle, Smooth, Bath for, A. R. McINTYRE and F. F. ANDERSON, 196; Analysis of, H. BAKER, 555
Museum, of Natural History, University of Oregon, 249; Field, 480; Peabody, of Yale University, 250; Tring Zoological, 407
Museums, American Association of, Grants to, 249
Myasthenic State, Response to Guanidine, A. S. MINOT, K. DODD and S. S. RIVEN, 348
Mycobacterial Diseases, W. C. WHITE, 14; E. R. LONG, 2

NAKAHARA, W., F. INUKAI and S. UGAMI, Vitamin L, 372
Napelline, E. F. ROGERS and W. FREUDENBERG, 139
National, Research Council, Canada, Medical Committee, 338; Academy of Sciences, Members Elected, 410; Address of President, F. R. LILLIE, 421; Presentation of Medals, 423; Abstracts of Papers, 425; 464
Nematode Eggs, A. C. SCOTT, 145
Neurological Congress, International, 81
Neuropsychiatry, Department of, at Washington University, 511
Neutrons, Fast, Effect on Dry Seeds, R. M. CHATTERS, 262
New York, State Experiment Station, 34; Botanical Garden, 79; City, American Institute, 133; Academy of Medicine, 230; Zoological Society, F. OSBORN, 280; Second Eastern Pacific "Zaca" Expedition, 522; Hospital, 339
Newton's Third Law, V. F. LENZEN, 508
Nicotinic Acid and Tobacco Metabolism, R. F. DAWSON, 257
NIMS, L. F., C. MARSHALL and H. S. BURR, pH of Circulating Blood, 197
NININGER, H. H., Baxter Meteorite, 234
Nomenclature, W. SEIFRIZ, 212; A. M. PATTERSON, 215; A. B. BEAUMONT, 347
Northwest Scientific Association, W. B. MERRIAM, 89
Northwestern University, School of Engineering, 408
Notre Dame Symposium, Mathematics, 159, 294; Physics of the Universe, 487
Nuttall, George Henry Falkiner, H. B. WARD, 337

Observatory, Mt. Palomar, 60; Solar, Smithsonian Institution, 182
Ohio State University, Lake Laboratory, 315
Ornithologists' Union, American, L. E. HICKS, 88
OSBORN, F., New York Zoological Society, 280
OWEN, S. E., H. A. WEISS and L. H. PRINCE, Carcinogenics and Growth Stimulation, 261
Oysters, Culture of, in Florida, 60; Pre-colonial and Present-day, G. R. LUNZ, JR., 367

Palmer's Discovery of Antarctica, L. MARTIN, 165
PAPANICOLAOU, G. N., and E. A. FALK, Androgenic Hormone, 238
Parasites and Presence of Host, G. N. WOLCOTT, 352
PARRAN, T., Syphilis, 147
Pasteur's Patents, P. VALLERY-RADOT, 415
PATE, J. R., Anatomical Specimens, 586
PATTERSON, A. M., Organic Nomenclature, 215
PAULING, L., The Crellin Laboratory, 563
PEARL, R., Tobacco Smoking and Longevity, 216
Pepsin Action, J. S. FRUTON and M. BERGMANN, 557
Peter Bent Brigham Hospital, 409
Philadelphia Award to A. N. Richards, 293
Philosophical Society, Amer., 161; E. G. CONKLIN, 391, 432
Photoperiodic Stimulus Transfer, W. F. LOEHWING, 92
Physical Society, American, 340
Physics, in the Automotive Industry, 161; of the Universe, Symposium on, 487
Physiological Society, American, W. J. MEEK and A. C. IVY, 361
Pickering, William Henry, A. J. CANNON, 179
Pilchard Fishery, 273
Planck, Max, Eightieth Birthday, E. C. KEMBLE, 360
Plant, Tissue, Bleaching of, G. L. STEBBINS, JR., 21; Free Water in, G. W. HAMMAR, 263; Diseases, Inhibition of, F. L. WELLMAN, 64; Hormones, and Darwin, G. S. AVERY, JR., and OTHERS, 66; Aneurin, F. W. WENT, J. BONNER and G. C. WARNER, 170; Cells in Tissue Cultures, C. D. LARUE, 240
Plates, Discolored, J. F. BURKE, 351
Plethysmograph, A. HEMINGWAY, 47
Pneumococcus, Type I, Polysaccharides in, M. G. SEVAG, 304
POFFENBERGER, A. T., Human Adjustment, 124
Pollen and Hay Fever, D. H. CAMPBELL, 16; O. C. DURHAM, 167
Potassium Metabolism, D. M. GREENBERG and OTHERS, 438
Potential, Bioelectrical, T. C. BARNES and H. L. GOLUBOCK, 556
POTTER, G. R. L., Idest, 280
Pregnandiol, P. G. WEIL, 72
Prehistoric Quarries, K. BRYAN, 343
Prize, Francis Amory Septennial, 207
Probabilities in Card Matching, B. H. BROWN, 512
Projection Drawings, Cellophane for, C. SMITH, 586
Proton, A. E. HAAS, 584
Protoplasmic Streaming, Electric Potentials and Growth, H. G. DU BUY and R. A. OLSON, 490
Psychology, Internataional Congress of, J. P. GUILFORD, 479
Pulp and Paper, Manufacture of, C. H. HERTY, 280

Radiation, Biological Effects, B. M. DUGGAR, 507
RAND, F. V., Biological Abstracts, 323
RANDOLPH, L. F., and D. B. HAND, Vitamin A Activity of Corn and Doubling of Chromosomes, 442
Rare Earths in Hickory Leaves, W. O. ROBINSON, R. WHETSTONE and B. F. SCRIBNER, 470
Rats, Albino, J. MINCKLER and F. D. PEASE, 460
RAWLINS, T. E., and W. N. TAKAHASHI, Nature of Viruses, 255
Red Pine, Disturbance of, J. A. JUMP, 138
Reflex Arc, Conduction of, W. S. MCCULLOCH, 65
Refraction, H. G. BOOKER and L. V. BERKNER, 257
Research, Laboratories, Industrial, C. HULL, 323; Institute, Industrial, M. HOLLAND, 324; Organization of, 479; Luminous, and Educational Darkness, O. RIDDLE, 375; at Mellon Institute, W. A. HAMOR, 380
Retina of the Frog, Pigments from, A. M. CHASE, 238
REYNOLDS, J. B., Falling Chimneys, 186
REYNOLDS, S. R. M., Oestrin, 537
Richards, A. N., Philadelphia Award to, 293
RICHARDS, O. W., and J. A. SMITH, Lucite, 374
RIDDLE, O., Educational Darkness and Luminous Research, 375
ROBERTS, J. L., Growth in Bacillus Mycoides, 260
ROBINSON, W. O., R. WHETSTONE and B. F. SCRIBNER, Rare Earths in Hickory Leaves, 470
ROGERS, E. F., and W. FREUDENBERG, Napelline, 139
Root and Shoot Production and Beta (3) Indole-acetic Acid, E. GOLDBERG, 511
RUTHERFORD (LORD) OF NELSON, Science and Industry in India, 75

SAYLES, R. W., Consequent Streams in Maine, 189
Schaeffer Spore Stain, G. K. ASHBY, 443
Schaper, Professor, Reinstatement of, 141
SCHOENHEIMER, R., and D. RITTENBERG, Metabolism and Isotopes, 221
Schuchert, Professor, In Honor of, 571
SCHWARTZ, B., Maurice Crowther Hall, 451
Science, and Society, 16, 17, 367, 463; H. G. MOULTON, 173; at the University of Chicago, C. R. MOORE, 278; and General Education, O. W. CALDWELL, 454; P. B. SEARS, 506; Invitation to Teachers of, L. W. Taylor, R. W. TYLER and A. C. KINSEY, 528
Scientific, Writing, G. R. L. POTTER, 280; Literature, Cross References in, W. J. HOOKER, 577
SCOTT, A. C., Nematode Eggs, 145
SEARES, F. H., Magnitudes, 1
SEARS, P. B., Science and General Education, 506
SEIFRIZ, W., Emulsoid, 212
Seismological Society of America, Eastern Section, A. J. WESTLAND, 534
Selenium, Absorption of, W. M. HOSKINS, 46; and Plants, S. F. and H. M. TRELEASE, 70
Serum, Electrophoresis of, A. TISELIUS and E. A. KABAT, 416
SEVAG, M. G., Polysaccharides in Pneumococcus, 304
Ship "Research," 59; J. A. FLEMING, 214
SHORR, E., S. B. BARKER and M. MALAM, Respiratory Metabolism, 168
SHROCK, R. R., Fossil Algae, 438

Sigma Xi Lectures, Yale University, 132
Silicic Acid Jellies, H. W. BATCHELOR and P. W. WILSON, 172
Sinanthropus Pekinensis, F. WEIDENREICH, 322
SISSON, W. A., Halicystis, 350
SKINNER, S. A., Effect of Freezes on Trees, 279
Slocum, Arthur Ware, C. CRONEIS, 227
Small, John Kunkel, J. H. BARNHART, 129
SMITH, C., Cellophane for Projection Drawings, 586
SMITH, R. T., Mill Refuse a Menace to Fish Life, 552
SMITH, S., Alabama Academy of Science, 553
SMITH, W. K., Sweetclover Disease, 419
SMYTH, H. F., and C. P. CARPENTER, Derivatives of Sulfanilamide, 350
Snowshoe Hare Cycle, R. G. GREEN and C. L. LARSON, 298
Snowslide Erosion, J. L. DYSON, 365
Social Sciences and Engineering Education, W. E. WICKENDEN, 152
Society and Science, 16, 17, 367, 463; H. G. MOULTON, 173
Soil Corrosion, A. B. BEAUMONT, 347
Species, Administrative, A. C. WEED, 550
Specimens, Anatomical, Preservation of, J. R. PATE, 586
Spectroscopy, Conference on, 455
Standards Association, American, 384
Stars, Fixed, and Cosmic Constants, A. E. HAAS, 195
STEARNS, J. C., Mount Evans Laboratory, 431
STEBBINS, G. L., JR., Bleaching of Plant Tissues, 21
STERN, K. G., and R. W. G. WYCKOFF, Catalase, 18
Stieglitz, Julius, Lectureship in Honor of, 9
STONER, D., Craspedacusta near Albany, N. Y., 188
Streams, Consequent, in Maine, R. W. SAYLES, 189
Street Traffic Research at Yale University, 383
STRONG, L. C., Tumors of the Mammary Gland, 144
STRUVE, O., Cooperation in Astronomy, 364
Sulfanilamide, and Virus Diseases, E. B. MCKINLEY, E. G. ACREE and J. S. MECK, 43; Derivatives of, H. F. SMYTH and C. P. CARPENTER, 350; N. R. F. MAIER, 439; and Prontosil, Action of, R. FINKELSTEIN and J. M. BIRKELAND, 441
SUMNER, J. B., and N. GRALÉN, Molecular Weight of Crystalline Catalase, 284; and I.-B. ERIKSSON-QUENSEL, Molecular Weights of Urease, Canavalin, Concanavalin A and Concanavalin B, 395
Surface Motion of Water, I. LANGMUIR, 119
Sweetclover Disease, W. K. SMITH, 419
Synapsis, C. C. LINDEGREN and C. B. BRIDGES, 510
Syphilis, T. PARRAN, 147
SZENT-GYÖRGYI, A., Vitamin C, 214

TANG, Y.-Z., and F. GREENSHIELDS, Feeder for Rats, 398
Taxonomy, a Field for Research, J. M. GREENMAN, 265
TAYLOR, H. S., Constants and Numerical Data, 235
TAYLOR, L. W., R. W. TYLER and A. C. KINSEY, Invitation to Teachers of Science, 528
Termites, J. G. LEACH and A. A. GRANOVSKY, 66
Testing Materials, American Society for, 502
Therapeutic Results, Evaluation of, F. T. JUNG, 461
Thiamin, R. R. WILLIAMS, 559
THOMPSON, R. C., and W. F. KOSAR, Lettuce Seed, 218
Thompson Science Fund, Awards, 455
THORNBERRY, H. H., Tobacco-Mosaic Virus Protein, 91
Thymus, J. GERSHON-COHEN and OTHERS, 20
TISELIUS, A., and E. A. KABAT, Electrophoresis of Serum, 416
Tissue Culture Chamber, G. ZECHEL, 264
Tobacco Smoking and Longevity, R. PEARL, 216
TORRANCE, C. C., Determination of Ascorbic Acid, 332
TOTTINGHAM, W. E., and H. J. DUTTON, Chlorophyll, 214
TRASK, J. D., and J. R. PAUL, Poliomyelitis Virus, 44
TRELEASE, S. F. and H. M., Selenium and Plants, 70
Trypanosoma Cruzi Chagas, S. F. WOOD, 366
Tuberculosis and Leprosy, W. C. WHITE, 14; E. R. LONG, 23
Tufts Medical School, 384
Tumors of the Mammary Gland, L. C. STRONG, 144
Tyler, Harry Walter, 181

Ultra-violet, Long Wave-length, A. C. GIESE, 326
Urease, Molecular Weight of, J. B. SUMNER, N. GRALÉN and I.-B. ERIKSSON-QUENSEL, 395

VALLERY-RADOT, P., Pasteur's Patents, 415
VARRELMAN, F. A., Parthenocarpic Apples, 414
Vegetables, Dehydration of, E. F. HOPKINS, 71
Vibrations in Rods, E. H. JOHNSON, 351
Virus, Diseases, E. B. MCKINLEY, E. G. ACREE and J. S. MECK, 43; A. R. DOCHEZ and C. A. SLANETZ, 142; Poliomyelitis, J. D. TRASK and J. R. PAUL, 44; Tobacco-mosaic, H. H. THORNBERRY, 91; L. F. MARTIN, A. K. BALLS and H. H. MCKINNEY, 329; V. L. FRAMPTON and H. NEURATH, 468; M. A. LAUFFER, 469; Pyogenic, in the Rat, W. H. WOGLOM and J. WARREN, 370
Viruses, Nature of, T. E. RAWLINS and W. N. TAKAHASHI, 255; Plant, Separation of, W. B. ALLINGTON, 263; R. A. GORTNER, 529
Visual Purple and Rod Vision, H. F. BLUM, 193
Vitamin, B_1, R. F. LIGHT and L. J. CRACAS, 90; Crystalline Factor I, S. LEPKOVSKY, 169; C, A. SZENT-GYÖRGYI, 214; C, C. C. TORRANCE, 332; C in Milk, Oxidation of, D. B. HAND, E. S. GUTHRIE and P. F. SHARP, 439; B_2 Complex, R. F. DAWSON, 257; L. W. NAKAHARA, F. INUKAI and S. UGAMI, 372; A Activity of Corn and Doubling of Chromosomes, L. F. RANDOLPH and D. B. HAND, 442; A and Red-cone Dark Adaptation in Cirrhosis of Liver, C. HAIG, S. HECHT and A. J. PATEK, JR., 534; Thiamin, R. R. WILLIAMS, 559
Vivi-diffusion Apparatus, F. W. BERNHART, 373
VOSE, R. W., Elasticity, Plasticity and Structure of Matter, R. Houwink, 369

WADLEY, F. M., Attendance at Scientific Meetings, 437
WALKER, J. H., Mounts of Helminth Eggs, 558
WARD, H. B., George Henry Falkiner Nuttall, 337
Washington University, Neuropsychiatry at, 571
WATERS, E. T., J. MARKOWITZ and L. B. JAQUES, Anaphylaxis, 582
WEED, A. C., Administrative Species, 550
WEIDENREICH, F., Sinanthropus Pekinensis, 322
WEIL, P. G., Pregnandiol, 72
Welfare Island, Research on Chronic Diseases, 131
WELLMAN, F. L., Inhibition of Plant Diseases, 64
WENT, F. W., J. BONNER and G. C. WARNER, Aneurin, 170
WESTLAND, A. J., Eastern Section of Seismological Society of America, 534
Wheals in Human Skin, H. A. ABRAMSON, 299
WHITCOMB, L., Possible Landslip Scars, 530
WHITE, W. C., Mycobacterial Diseases, 14
Whitney, Leo D., 58; B. A. MADSON, 131
WICKENDEN, W. E., Engineering Education, 152
WIELAND, G. R., National Monuments, 37
WILBUR, R. L., March of Medicine, 199
Wild Life, Week, 229; Protection, 385; and Silviculture, I. T. HAIG, 485
WILLARD, B., Pennsylvania Academy of Science, 416
WILLIAMS, R. R., Thiamin, 559
WILLOUGHBY, R. R., Fertility and Intelligence, 86
WILSON, E. B., Men of Mathematics, E. T. Bell, 578
WILSON, H. K., Minnesota Academy of Science, 554
Wistar Institute of Anatomy and Biology, 408
WOGLOM, W. H., and J. WARREN, Pyogenic Virus, 370
WOLCOTT, G. N., Host and Live Parasites, 352
WOOD, S. F., Trypanosoma Cruzi Chagas, 366
WOODBURY, A. M., Lower Sonoran, 484

X Particle, A. BRAMLEY, 281

Yale University, Street Traffic Research, 383
Yeast, Growth and Respiration of, E. S. COOK, M. J. HART and R. A. JOLY, 331; Medium, J. D. DELAPLANE and H. O. STUART, 585

ZECHEL, G., Tissue Culture Chamber, 264
ZOBELL, C. E., and H. D. MICHENER, Adaptation of Marine Bacteria, 328